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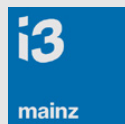
# MEDIEVAL BRUGES AND ITS OUTPORTS. A LANDSCAPE-ARCHAEOLOGICAL CONTRIBUTION TO THE ZWIN-DEBATE

EUROPEAN HARBOUR DATA REPOSITORY

Vol. 08



Jena 2019



## **How to cite this volume :**

J. Trachet, D. de Ruijscher, *Medieval Bruges and its outports. A landscape-archaeological contribution to the Zwin-debate*. In: L. Werther / H. Müller / M. Foucher (ed.), *European Harbour Data Repository*, vol. 08 (Jena 2019). DOI: <https://doi.org/10.22032/dbt.38396> (pdf), <https://doi.org/10.22032/dbt.38398> (csv), <https://doi.org/10.22032/dbt.38397> (excel).

## **How to cite a specific dataset in this volume:**

J.Trachet, D. de Ruijscher, *Medieval Bruges and its outports. A landscape-archaeological contribution to the Zwin-debate*, ID [add number ID\_place]. In: L. Werther / H. Müller / M. Foucher (ed.), *European Harbour Data Repository*, vol. 08 (Jena 2019). DOI: <https://doi.org/10.22032/dbt.38396> (pdf), <https://doi.org/10.22032/dbt.38398> (csv), <https://doi.org/10.22032/dbt.38397> (excel).

# European Harbour Data Repository

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# European Harbour Data Repository

## General introduction and critical comment

### General introduction and critical comments

The European Harbour Data Repository is a series of databases which were compiled in the framework of the DFG-funded Priority Program 1630 “Harbours from the Roman Period to the Middle Ages” (Kalmring/von Carnap-Bornheim 2012; Engel/Kunz/Müller/Werther 2018; <http://www.spp-haefen.de/en/home/>). It is part of the virtual HARbour Research Environment “HARE” (<http://haefen.i3mainz.hs-mainz.de/>) and catalogues harbours, harbour-related infrastructure, and vessels all over Europe with a chronological focus on the Roman and Medieval Period.

Different digital volumes of the data repository have been compiled by several project teams within and without the Priority Program. Therefore, the spatial and chronological focus, as well as the size of the datasets, differ significantly. Furthermore, some of the datasets cover a specific region and period which is representative as possible, whereas other datasets focus on selected sites. We try to minimize data overlap, but in some cases, this was not possible.

A cross-disciplinary, cross-period, and cross-border database is a challenge. We hope that our method will have a benefit for the research community. Given the spatial and chronological scale and the diversity of sources, this Data Repository does not aim to be exhaustive – and it is still growing, thus not yet completed. Before using this data collection for further analysis, it is absolutely necessary “to verify and restrict content spatially and temporally,” as recommended by Roosen and Curtis (2018), since the data is patchy especially on a supra-regional scale. We should add that the topics have to be carefully chosen as well, and the data quality must be kept in mind (see e.g. Cooper / Green 2015; Roosen / Curtis 2018; Wilson 2011).

**Every user has to be aware of these restrictions, especially when combining different datasets for quantitative analysis!**

## Scientific, Authentic and Ethical Data Collection

In his paper “Geospatial Big Data and Archaeology”, McCoy (2017) discusses the need to “produce data and results that are scientific (testable, replicable), authentic (a faithful representation of the archaeological record and the human past), and ethical (protects cultural resources).”

To produce data that is scientific, the relevant sources are described for every dataset as well as their accuracy, nature and quality. Furthermore, each database has a specific introduction and critical comments [the “Stand-alone Quality Report” after (McCoy, 2017)], which contains detailed information on the data’s quality and nature, collection methodology, strengths, pitfalls and gaps. Every database and volume of the European Harbour Data Repository is based on an identical database architecture and uses the same thesauri to guarantee interoperability. Before publication, every database is checked by the editors with a specific protocol to prevent inconsistencies, gaps, spelling mistakes or thesaurus misuse.

To produce data that is authentic, each dataset has one or several clearly named author(s), who have been responsible for data collection and the transfer and translation in the database architecture. All these authors are experts in specific research on their field. Furthermore, the data collection is part of a distinct research project with a clearly defined topic as well as spatial and chronological boundaries.

To produce data that is ethical and to protect the archaeological heritage and prevent looting and vandalism, the spatial accuracy of longitude and latitude has been reduced to three decimal places. Nevertheless, the precision is still sufficient for manifold spatial analysis.

## Data and Database Architecture

Ordinary EXCEL sheets have been used for data acquisition, similar to the established process of data collection in the Harvard “Digital Atlas of Roman and Medieval Civilizations” (<https://darmc.harvard.edu/>), “The Oxford Roman Economy Project” (<http://oxrep.classics.ox.ac.uk/>) and the “Database of Ancient Ports and Harbours” (<http://www.ancientportsantiques.com/> and de Graauw 2016).

Each entry (i.e., each row of the table) has a specific ID (i.e. column «ID\_place») and consists of a certain number of details/attributes (i.e., columns of the table), such as the site name, its geo-coordinates, the function or the dating and the certainty of these data. As the EXCEL structure does not allow for a relational data model, datasets are sometimes split for locations with heterogeneous information: for example, a harbour city with a roman quay and a medieval landing site.

Specific obligatory thesauri (see below) have been predefined for most of the columns in order to standardise details/attributes. Nevertheless, the level of detail of data entry may differ significantly from author to author. In fields with multiple entries, these are separated by a semicolon. Each dataset is referenced with short titles of modern and/or ancient authors in the database, which refer to the full and separate bibliography.

Due to legal restrictions and ethical issues (looting and vandalism), some of the databases have not been published completely with all the existing datasets and sites. In this case, the authors specify the restrictions and scientific use of the full version for a specific purpose, as it may possibly be on inquiry.

## *Geographical localisation*

All geographical coordinates are latitude and longitude in decimal degrees (WGS 84). We distinguish between the security and the precision of the localisation. The security is the spatial reliability of the localisation, which is highest for a precisely-measured archaeological feature and lowest/very uncertain for locations in written sources which are located with weak indications. The precision is more technical, and is mainly determined by the precision of the base map or zoom factor during mapping.

For very fuzzy geographic information from written sources, which only allow for the identification of a specific watercourse (e.g. “navigation on river xy”), the specific key code “fuzzy location” has been used. In these cases, the geo-coordinates have been placed at a location at the watercourse which seemed most likely to the author.

## *Chronological information*

Chronological information is based on manifold data, whereas precision and reliability differ significantly, which is documented in detail. The main chronological information could be found in the columns by century. If the chronological information is reliable, a “yes” has been filled in; if the chronological information is not reliable or the author had to deal with intervals of uncertainty (e.g. <sup>14</sup>C-dates), “assumed” has been filled in. Additionally (!), the columns “Date\_min” and “Date\_max” are used for precise numerical dates, especially in case of a precise terminus post quem or terminus ante quem. Nevertheless, every author determines how he exactly used these fields.

At the end of each dataset, you may find comments of the authors or additional information, which did not coincide with the database scheme.

**Mistakes are inevitable – please contact us, if you find any of them!**

## **Data Formats**

The databases are available as Excel-file as well as .csv to allow for long-term reusability. They could easily be integrated in geographic information systems and data management and analysis tools. All additional information is available as .pdf.

## **Credits**

The European Harbour Data Repository is edited by Lukas Werther, Hartmut Müller, and Marion Foucher, supported by Sebastian Steppan. Every volume of the Data Repository is authored by one or several specialists. The European Harbour Data Repository is a result of the DFG-funded Priority Program 1630 “Harbours from the Roman Period to the Middle Ages.” The database has been designed by a team of archaeologists, historians, geographers, and information technology specialists at Jena University and the University of Applied Sciences Mainz. The work is strongly supported by the Centre for Baltic and Scandinavian Archaeology Schleswig (Claus von Carnap-Bornheim) as well as the other PIs of the Priority Program (Falko Daim, Peter Ettel, and Ursula Warnke) as well as all projects in the Priority Program (<http://www.spp-haefen.de/en/projects/>). Data publication and archiving for long-term availability is supported by Digitale Bibliothek Thüringen (<https://www.db-thueringen.de>).

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## Bibliography

**Cooper / Green 2015** - A. Cooper/ C. Green: "Embracing the complexities of 'big data' in archaeology: the case of the English Landscape and Identities project", *Journal of Archaeological Method and Theory* 23 (1), 2015, 271-304.

**McCoy 2017** - M. D. McCoy, Geospatial Big Data and archaeology: Prospects and problems too great to ignore. In: *Journal of Archaeological Science*, 84, 2017, 74-94.

**Engel/Kunz/Müller/Werther 2018** - T. Engel/A. Kunz/H. Müller /L. Werther: Towards a Virtual Research Environment for Ancient Harbour Data. In: C. von Carnap-Bornheim/F. Daim/P. Ettel u. a. (ed.): *Harbours as object of interdisciplinary research. Archaeology + history + geosciences. RGZM Tagungen 34* (Mainz 2018) 59–69.

**De Graauw 2016** - A. de Graauw: *Ancient Ports and Harbours. Volume 1: The Catalogue*. <http://www.ancientportsantiques.com/docs-pdf/> [access: 24 June 2016].

**Roosen / Curtis 2018** - J. Roosen/D. R. Curtis: Dangers of noncritical use of historical plague data,. In: *Emerging Infectious Diseases*, Vol. 24-1, January 2018, 103-110.

**Wilson 2014** - A. Wilson: Quantifying roman economic performance by means of proxies: pitfalls and potential. In F. de Callataÿ (ed.): *Quantifying the Greco-Roman economy and beyond. Pragmateiai 27* (Bari 2014), 147-167.

**Kalrmring/von Carnap-Bornheim 2012** - S. Kalrmring/C. von Carnap-Bornheim: DFG-Schwerpunktprogramm 1630 «Häfen von der Römischen Kaiserzeit bis zum Mittelalter. Zur Archäologie und Geschichte regionaler und überregionaler Verkehrssysteme» bewilligt. *Jahresbericht Zentrum Baltische und Skandinavische Archäologie* 2011, 2012, 28–31.



## Volume 8

### Project Medieval Bruges and its outports.

### A landscape-archaeological contribution to the Zwin-debate

### Specific introduction and critical comment

#### FRAMEWORK OF DATA COLLECTION

Data collection for this database took place during 2013-2017, in the framework of the project “Medieval Bruges and its outports. A landscape-archaeological contribution to the Zwin-debate”, which was funded by the Flemish Research Foundation (FWO).

The responsible authors are dr. Jan Trachet, who did a PhD on this project, and Dante de Ruijscher, who made his master thesis on one of the smaller outports, both active in the Historical Archaeology Research Group (HARG), Department of Archaeology, Ghent University.

Both PhD and thesis have been supervised by Prof. dr. Wim De Clercq, head of the Historical Archaeology Research Group. Co-promoters of the project were Prof. dr. Jan Dumolyn, Prof. dr. Erik Thoen and Prof. dr. Marc Van Meirvenne. The historical research is executed by drs. Ward Leloup and dr. Kristof Dombrecht. The geophysical survey is executed by dr. Samuël Delefortrie.

#### TOPICS AND CONTENT

The main topic of this database are harbours of Late Middle Ages along the North Sea coast. More specifically, the coastal border region between Belgium and the Netherlands.

The database contains 9 datasets, representing 9 harbours.

#### SPATIAL COVERAGE - DETAILS

The working area for data collection has been the North Sea coast. The pivotal point was the region around the Zwin tidal inlet, which formed the medieval axis of trade towards the city Bruges, but later developed into the (natural) border between Belgium and The Netherlands.



## SPATIAL STRENGTHS AND LIMITATIONS

The data is most representative on the sites where both historical and archaeological data is available (i.e. Monnikerede, Hoeke, Damme, Sluis, Coxyde, Aardenburg and Oostburg). The most significant gaps are in the archaeological knowledge of Sint Anna Ter Muiden and Slepeldamme.

The quality of data is particularly good at the harbours of Monnikerede, Hoeke and Coxyde due to a rich dataset of historical and archaeological sources, which have been studied into detail during the above mentioned PhD and master theses.

It was the aim to create a dataset as representative as possible for the whole area, but there are still significant gaps. Therefore, spatial analysis and especially regional and supra-regional analysis are possible but restricted.

## TEMPORAL COVERAGE - DETAILS

The temporal focus of the database is the Late Medieval Period. The database is most representative for the period between the 12<sup>th</sup> and 16<sup>th</sup> century.

## CHRONOLOGICAL STRENGTHS AND LIMITATIONS

A specific chronological problem is the exact start and end of the functionality of the sites. For some harbours the documents initiating or terminating urban privileges are preserved, for other not. Moreover, some of the harbours were deserted and completely disappeared, whereas others just shrank into a hamlet or still exist as proper cities. The functioning of the sites as harbours is however always limited to the late medieval period.

## SOURCES

Data collection for this database is mainly based on written sources, historical maps, archaeological fieldwalking and geophysical survey.

**The bibliographical survey** resulted in a state of the art of the research of the Zwin area, published as:

**Trachet J., Delefortrie S., Dombrecht K., Dumolyn J., Leloup W., Thoen E., Van Meirvenne M. & De Clercq W. 2015.** Turning Back Tide: The Zwin debate in perspective. A historiographical review of the medieval port system northeast of Bruges. *Revue de Nord*, 97, 413: 305-321.

**Dumolyn J. & Leloup W. 2016.** The Zwin estuary: a medieval portuary network. In: Solórzano Telechea J.A., Arízaga Bolumburu B. & Bochaca M. (Eds.). *Las sociedades portuarias de la Europa Atlántica en la Edad Media / Town port societies in Atlantic Europe in the Middle Ages*: 197-212.

*Seminal works for further reading of this region include:*

**Brown A. and Dumolyn J. 2018.** *Bruges, a Medieval Metropolis, c. 850 - c. 1580*. Cambridge:

Cambridge University Press.

**Gottschalk M.K.E., 1983.** Historische geografie van Westelijk Zeeuws-Vlaanderen I-II, Dieren: Bataafsche leeuw.

**Hillewaert, B., Hollevoet, Y. and Ryckaert, M. (Eds.). 2011.** Op het raakvlak van twee landschappen: de vroegste geschiedenis van Brugge. Brugge: Van de Wiele.

**Ryckaert, M. and Vandewalle, A. 1982.** De strijd voor het behoud van het Zwin. In: Vermeersch, V. (ed) Brugge en de zee: van Bryggia tot Zeebrugge. Antwerpen: Mercatorfonds: 53-70.

**Verhulst, A. 2000.** Kort overzicht van de geschiedenis van de Zwinstreek in de Middeleeuwen. Handelingen voor het Genootschap van Geschiedenis te Brugge 137, 3-4: 191-202.

**The survey for historical maps, proto-cadastral sources, urban accounts, rent registers and tax revenues** was predominantly executed in the General State Archives in Brussels (ARA), the State Archive in Bruges (RAB), the State Archive in Ghent (RAG) and the Zeelandic Archive (ZA).

**The survey for archaeological data** is predominantly based on the Central Archaeological Inventory of Flanders (CAI) and the Archaeological Information System of The Netherlands (ARCHIS), and is supplemented with a systematic survey of excavation reports.

**The results of the archaeological and geophysical survey** are published as:

**Trachet J., Delefortrie S., Van Meirvenne M., Hillewaert B. & De Clercq W. 2017.** Reassessing surface artefact scatters. The integration of artefact-accurate fieldwalking with geophysical data at medieval harbour sites near Bruges. *Archaeological Prospection* 24 (2): 101-117.

**The results of the drone- and molehill survey** are published as:

**Trachet J., Poulain M., Delefortrie S., Van Meirvenne M. & De Clercq W. 2017.** Making a mountain out of a molehill? A low-cost and time-efficient molehill survey on the lost medieval harbour site of Monnikerede (Belgium). *Journal of Field Archaeology* 42 (6): 503-513.

**De Reu J., Trachet J., Laloo P. & De Clercq W. 2016.** From low cost UAV to high-resolution topographic data: developing our understanding of medieval outport of Bruges. *Archaeological Prospection* 23 (4): 335-346.

**Further publications** related to this project are:

**de Ruijsscher D. in press.** Verwoest ende verdestrueerd. Multidisciplinair onderzoek naar het verdwenen dorp Coxyde. *Tijdschrift voor Historische Geografie*.

**De Clercq W., Dreesen R., Dumolyn J., Leloup W. & Trachet J. 2017.** Ballasting the Hanse. Baltoscandian erratic cobbles in the later medieval port landscape of Bruges. *European Journal of Archaeology* 20 (4): 710-736.

**De Clercq W., Dombrecht K., Dumolyn J., Leloup W., Trachet J., in press.** Monnikerede: The Rise and De-cline of a Medieval Port Community in the Shadow of the Staple of Bruges. *The Medieval Low Countries*.

**Trachet J. in press.** Monnikerede and Hoeke: a topographic analysis of two deserted late medieval harbours in Belgium. In Dumont A., Foucher M., Werther L. & Wollenberg D. (eds.), *Inland harbours in Central Europe: Nodes between Northern Europe and the Mediterranean Sea*. RGZM-Tagungen/ Interdisziplinäre Forschungen zu Häfen von der Römischen Kaiserzeit bis zum Mittelalter, Mainz.

**Trachet J., Leloup W., Dombrecht K., Delefortrie S., Thoen E., Van Meirvenne M. & De Clercq W. 2018.** Modelling Monnikerede. The topographical reconstruction of a deserted medieval outport near Bruges. *The Medieval Low Countries. An Annual Review*, 4: 91-130

**Trachet J. & De Clercq W. 2018.** Verdwenen havensites in een verzwonden havennetwerk. Resultaten van vijf jaar onderzoek in de Zwinstreek. *Archaeologia Mediaevalis*, 41: 6-13

**Trachet J. 2017.** Verlande voorhavens. Verdwenen middeleeuwse havensites in de Zwinstreek. *Monu-menten, Landschappen en Archeologie* 5, 6-25.

**The unpublished work** upon which most of the above publications are based:

**Trachet J. 2016.** Inland Outports. An interdisciplinary study of medieval harbour sites in the Zwin region. Unpublished Doctoral Thesis, Ghent University

**de Ruijscher D. 2017.** Coxyde of Beniardskerke. Niet-invasief interdisciplinair onderzoek naar een ver-dronken dorp in West-Zeeuws-Vlaanderen

## FINAL REMARKS

The collected data reflect the current state of landscape-archaeological and historical research in the Zwin region and is predominantly based on the project *Medieval Bruges and its outports. A landscape-archaeological contribution to the Zwin-debate*, which ran between 2013 and 2017. In the run of 2019, new archaeological data will be collected in the framework of a heritage protection study. A follow-up of the project: *High Tide-Low Tide. Bruges' late-medieval harbour-system as a maritime cultural community and landscape* is planned for 2019-2024.

# European Harbour Data Repository

## Key words and thesauri

### Harbour Terminology for Data Integration in HARE, Version 1.1

## Fields and Key Codes

A list of key codes has been defined for every column of the database as a guideline for the authors. As this list contains information, which is crucial to understand and reuse the database, we reproduce the full version.

<b>ID_place</b>	Numeric ID of each dataset
<b>Author</b>	Editor/author of the dataset, multiple references possible; format " <i>M. Mustermann/S. Sample</i> "
<b>Project</b>	<b>If you are a member:</b> project assignment in Priority Program 1630, use the <u>short titles</u> on <a href="http://www.spp-haefen.de/en/projects/">http://www.spp-haefen.de/en/projects/</a> [thesaurus obligatory]; <b>If you are no member:</b> use a coherent short title of your project or affiliation
<b>Year</b>	Year of the creation of the data set; You could add the year(s) of substantial revisions
<b>Status</b>	<u>1</u> : Data set completed and confirmed in most instances, <u>2</u> : Data set in progress, <u>3</u> : Data set uncompleted and not confirmed [thesaurus obligatory]
<b>Public</b>	<u>internal</u> (only visible/accessible for registered HARE user), <u>open</u> (open access in the WebGIS); [thesaurus obligatory]
<b>Latitude</b>	Decimal Degrees if possible, minimum two and maximum six decimal places; negative values in the South if necessary; Projection WGS 84; Best practice: Google Earth - Options - Longitude/Latitude - Decimal Degrees
<b>Longitude</b>	Decimal Degrees if possible, minimum two and maximum six decimal places; negative values in the West if necessary; Projection WGS 84; Best practice: Google Earth - Options - Longitude/Latitude - Decimal Degrees
<b>Country</b>	Country (English name)
<b>Name_mod</b>	Modern or common scientific name, usually toponym of the town/village/place, if necessary supposed place/locality
<b>Name_hist</b>	Historic name, multiple references possible
<b>Hydro_type</b>	<b>Hydrological position:</b> <i>River, Lake, Sea...</i> [thesaurus obligatory]; the assignment determines if it is an inland harbour or a maritime harbour; multiple alternative entries possible in case of transition areas

<b>Hydro_name_mod</b>	Modern name of the hydrological unit (River, Lake, Sea, Specific part of a coastline...)
<b>Hydro_name_hist</b>	Modern name of the hydrological unit in the specific context of the source
<b>Locat_secure</b>	<b>Reliability of the localisation/spatial reliability;</b> <i>highly reliable</i> (e.g. excavated features), <i>reliable</i> , <i>uncertain</i> , <i>very uncertain</i> [thesaurus obligatory]
<b>Locat_text</b>	<b>Descriptive text concerning the reliability of the localisation/spatial reliability and the underlying data</b> , e.g. "Location at river xy", "Location because of having the same name as a modern place/town/village"
<b>Locat_precision</b>	<b>Precision of the localisation</b> (1: meters, 2: hundreds of meters, 3: kilometers, 4: modern place mapped, 5: modern hydrological unit mapped, <i>fuzzy location</i> ) [thesaurus obligatory]
<b>Source_hist</b>	<b>Historic proof for the harbour/locality</b> (written source, picture, map...); <i>yes/no/assumed</i> [thesaurus obligatory]
<b>Source_feature_arch</b>	<b>Archaeological or geo-archaeological features for the harbour/locality;</b> <i>yes/no/assumed</i> [thesaurus obligatory]
<b>Source_find_arch</b>	<b>Archaeological finds as an indication for the harbour/locality</b> (imported goods, coins, parts of ships...); <i>yes/no/assumed</i> [thesaurus obligatory]
<b>Source_other</b>	Other proof/sources; please use key words (e.g. toponym, oral tradition...)
<b>Place_type_general</b>	<b>General definition of the place described:</b> <i>harbour</i> [including anchorages, ferry harbours, start and end points of transport by ship in written sources], <i>canal/portage</i> , <i>waterway</i> [especially for written sources, e.g. proof for navigation on a certain river without specific information about a harbour locality], <i>vessel</i> , <i>other</i> [thesaurus obligatory – see the full thesaurus below for details and definitions]
<b>Place_technique</b>	<b>Harbour terminology in matters of construction/building technique. Constructive key termini:</b> <i>landing</i> [general term for quay, wharf, jetty, pier], <i>quay</i> , <i>quay wall/wharf</i> , <i>pier/jetty</i> , <i>mole</i> , <i>breakwater</i> , <i>landing place</i> ( <i>hythe</i> , <i>landing site</i> ), <i>landing place with installations</i> , <i>bank revetment</i> . <b>Other constructive termini:</b> <i>pontoon</i> , <i>canal</i> , <i>anchorstone</i> , <i>floating barrier</i> , <i>boat slip/slipway</i> . <b>Ship-specific termini:</b> <i>raft</i> , <i>planked vessel</i> , <i>logboat</i> , <i>extended logboat</i> , <i>flat bottomed vessel</i> , <i>keelboat</i> , <i>other water vessel</i> [e.g. with textile shell] <i>boat/ship parts</i> [e.g. <i>paddles</i> , <i>rows</i> , <i>ropes</i> , <i>sails</i> ] [multiple entries possible; thesaurus obligatory – see the full thesaurus below for details and definitions]
<b>Place_topography</b>	<b>Topographic position of the harbour. Main topographic terms:</b> <i>sea harbour/port</i> , <i>inland harbour</i> , <i>river harbour</i> , <i>lacustrine harbour</i> , <i>river mouth harbour</i> , <i>confluence harbour</i> , <i>island harbour</i> , <i>tidal harbour</i> , <i>lagoonal harbour</i> , <i>fjord harbour</i> , <i>canal harbour</i> , <i>harbour basin</i> , <i>anchorage</i> , <i>natural obstacle for navigation</i> [details in comments]. <b>Other topographic terms:</b> <i>open harbour</i> [permanent access], <i>closed harbour/dock</i> , <i>harbour basin separated by a mole</i> , <i>parallel harbour</i> [riverine], <i>outer harbour</i> , <i>dead-end harbour canal</i> , <i>Geestrandburg</i> , <i>Gewerbewurt</i> , <i>Langwurt</i> [multiple entries possible; thesaurus obligatory – see the full thesaurus below for details and definitions]
<b>Place_infrastructure</b>	<b>Infrastructure for harbour operation and additional facilities. Central infrastructural terms:</b> <i>shipyard</i> , <i>dockside crane</i> , <i>boathouse</i> , <i>boat slip</i> , <i>lighthouse</i> , <i>storehouse</i> , <i>corporation of boatmen/guild</i> [e.g. <i>nautae</i> ], <i>river crossing</i> , <i>bridge</i> , <i>ford</i> , <i>connected to important terrestrial route/road</i> . <b>Other infrastructural terms:</b> <i>dolphin</i> , <i>mooring pole</i> , <i>bollard/belayer</i> , <i>buoy</i> , <i>fender</i> , <i>cairn</i> , <i>Vorr</i> , <i>Baumhaus</i> , <i>harbour palisade</i> , <i>barrage</i> , <i>derrick/davit</i> , <i>tow path</i> , <i>sluice</i> , <i>fishery</i> , <i>water mill</i> , <i>dam</i> . [multiple entries possible; thesaurus obligatory – see the full thesaurus below for details and definitions]
<b>Place_function</b>	<b>Function and purpose of the harbour. Central function-specific terms:</b> <i>commercial/trade harbour</i> , <i>naval base</i> , <i>origin/destination of transportation by ship</i> [from written sources], <i>ferry harbour</i> , <i>landing place</i> [synonym <i>hythe</i> , <i>landing site</i> ], <i>port</i> , <i>fishing harbour</i> , <i>transshipment harbour</i> , <i>safety harbour</i> , <i>beach market</i> , <i>shipyard</i> , <i>water toll/naval duties</i> , <i>waterway</i> . <b>Other function-specific termini:</b> <i>dockland/waterfront</i> , <i>staple port</i> , <i>Schiffsländenburgus</i> , <i>villa maritima</i> . <b>Ship-specific termini:</b> <i>inland vessel</i> , <i>seagoing vessel</i> , <i>ferry</i> , <i>cargo vessel</i> , <i>naval ship</i> , <i>fishing/working vessel</i> , <i>rowing facilities</i> , <i>sailing facilities</i> , <i>towing/hauling facilities</i> , <i>paddling facilities</i> , <i>punting/staking facilities</i> . [multiple entries possible; thesaurus obligatory – see the full thesaurus below for details and definitions]
<b>Goods_finds</b>	<b>Proof for specific transported goods and other specific finds and groups of material:</b> <i>cargo</i> , <i>passengers/people</i> , <i>food</i> , <i>fish</i> , <i>wine</i> , <i>grain/cereal</i> , <i>oil</i> , <i>salt</i> , <i>people</i> , <i>pottery</i> , <i>amphorae</i> , <i>barrels</i> , <i>stone</i> , <i>timber</i> , <i>straw/hay</i> , <i>iron/ore</i> [Multiple entries possible; thesaurus obligatory – see the full thesaurus below for details and definitions]

<b>Actors_activity</b>	<b>Harbour- and navigation-specific actions and events as well as specific user groups:</b> <i>upstream navigation, downstream navigation, hauling/towing, sailing, paddling, rowing, stake/punt, shipwreck, piracy</i> [Multiple entries possible; thesaurus obligatory – see the full thesaurus below for details and definitions]
<b>Place_hierarchy</b>	<b>Individual expert evaluation concerning the hierarchical order and importance of the harbour concerning the spatial extent of its importance, its position in the harbour network, the frequency and duration of its use, the general constructive effort, the spatial connection to sites of production and consumption as well as terrestrial routes:</b> <i>global importance, supraregional importance, regional importance, local importance, seasonal/periodical use, permanent use, peripheral location, central node, short-term use, long-term use, no proof for actual use, substantial harbour infrastructure/buildings, no substantial harbour infrastructure/buildings, Connected to important terrestrial route/road, Connected to an important productive site, Connected to an important consumer site, connected to an important center of administration or power, connected to an important religious center, connected to an important military base.</i> [Please use multiple entries; thesaurus obligatory – see the full thesaurus below for details and definitions]
<b>Place_secure_info</b>	<b>Comments on the reliability of the classification of the harbour/location, free text (general, technique, topography...); e.g. (always together with a specific classification/category):</b> <i>explicit archaeological features/historical proof; implicit/highly interpretive archaeological features/historical proof; classification of a modern author/academic based on an unsecure/unclear basis</i>
<b>Date_min</b>	<b>Earliest proof in absolute calendar years</b> [if only the century/centuries or a certain period is known: fill in the starting year/terminus post quem]; <u>only one number</u> [numeric], no text and no special characters!
<b>Date_max</b>	<b>Earliest proof in absolute calendar years</b> [if only the century/centuries or a certain period is known: fill in the end year/terminus ante quem]; <u>only one number</u> [numeric], no text and no special characters!
<b>Date_pre_1_cent_BC</b>	Dating before 1st century BC documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_1_cent_BC</b>	Dating 1st century BC documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_1_cent_AD</b>	Dating 1st century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_2_cent_AD</b>	Dating 2nd century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_3_cent_AD</b>	Dating 3rd century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_4_cent_AD</b>	Dating 4th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_5_cent_AD</b>	Dating 5th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_6_cent_AD</b>	Dating 6th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_7_cent_AD</b>	Dating 7th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_8_cent_AD</b>	Dating 8th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_9_cent_AD</b>	Dating 9th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_10_cent_AD</b>	Dating 10th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_11_cent_AD</b>	Dating 11th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_12_cent_AD</b>	Dating 12th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_13_cent_AD</b>	Dating 13th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_14_cent_AD</b>	Dating 14th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_15_cent_AD</b>	Dating 15th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_16_cent_AD</b>	Dating 16th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_17_cent_AD</b>	Dating 17th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_18_cent_AD</b>	Dating 18th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_19_cent_AD</b>	Dating 19th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_20_cent_AD</b>	Dating 20th century AD documented; <u>yes/no/assumed</u> [thesaurus obligatory]
<b>Date_secure</b>	<b>Dating quality/reliability:</b> <i>highly reliable</i> (archaeometric dating/dendrochronology/14C, clear dates in written sources...), <i>reliable, uncertain, very uncertain</i> [thesaurus obligatory]

<b>Date_text</b>	<b>Descriptive text about the dating</b> (what is dated, how was it dated, how reliable is the date, how reliable is the context...); you can fill in "fuzzy" dating information here, if the dating is very uncertain, for example a roman or early medieval date is assumed without further details
<b>Ref_hist</b>	<b>Historic/written source, which contains information about the specific harbour</b> ; if possible with information about the author (e.g. Einhard, Vita Caroli Magni/Das Leben Karls des Großen)
<b>Ref_mod</b>	<b>Modern references/bibliography, which contains crucial information about the specific harbour</b> ; fill in at least a short title/lemma with the authors name and the year of publishing; if possible, please fill in the full title to every short title/lemma in the sub-table "References". For unpublished data/archivalia please add a clear reference such as "unpubl. material/documents from museum XY".
<b>Comments</b>	Comments to the dataset, additional information; free text
<b>Punctuation/ Separators</b>	<b>If multiple entries are necessary in a specific field:</b> separate alternatives/synonyms with a forward slash "/"; separate rival entries or entries of multiple sources/references with a semicolon ";". The comma "," only divides longer entries and is not allowed to be used as a separator!



## Thesauri

This terminology is provided as a tool for systematic data entry in the data sheets of HARE. It has been developed in the framework of SPP 1630 "Harbours". The terminology and definitions are based on the German harbour terminology provided by the working group "Terminology" in SPP 1630 [(J. Daum/I. Eichfeld et al.) with contributions from Julia Daum, Marion Foucher, Sven Kalmring, Lars Kröger, Natascha Mehler, Manuela Mirschenz, and Johannes Preiser-Kapeller). It has been reduced, simplified and regrouped thematically based on the pre-existing structure of HARE, which allows for smooth data migration and easy data entry. The English terminology has been provided by Lukas Werther, Thomas Engel, and Nina Korbel using (and referring to) existing thesauri such as Getty. Please help us improve this terminology in version 1.1. Please contact us in case of mistakes, questions, and ideas.

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### Place\_type\_general

Grobe Einordnung des beschriebenen Ortes [\[Thesaurusbindung\]](#)

General definition of the place described [\[thesaurus obligatory\]](#)

Term DE	Term EN	Definition SPP 1630	Definition extern
Hafen <i>[beinhaltet Ankerplatz, Fähranleger, Start-/Endpunkt eines Transports per Schiff aus hist. Quellen]</i>	Harbour <i>[including anchorages, ferry harbours, start and end points of transport by ship in written sources]</i>	An einem Ufer gelegener Ausgangs- und/oder Endpunkt für die Schifffahrt. In der Regel handelt es sich um Bereiche, die aufgrund natürlicher und/oder baulicher Anlagen besonderen Schutz bieten. <i>Starting and/or terminal point of waterways at a shore. Usually areas with natural and/or edificial constructions in terms of protection.</i>	
Kanal/Schleppstrecke <i>[Synonym: portage]</i>	Canal/portage	Anthropogen hergestellter Wasserlauf zur Schaffung einer Wasserstraße. <i>Man-made watercourse to create a navigable waterway.</i>	

Wasserstraße <i>[v.a. für hist. Quellen, z.B. Beleg für Schifffahrt auf Fluss xy, aber keine konkrete Hafenlokalität]</i>	Waterway <i>[especially for written sources, e.g. proof for navigation on a certain river without a specific harbour locality]</i>	(Regelmäßig) Befahrene Verkehrsrouten der See- und Binnenschifffahrt. <i>(Frequently) Used traffic route in maritime and inland navigation</i>	
Wasserfahrzeug	Vessel	Alle Arten von Wasserfahrzeugen. <i>All kinds of vessels.</i>	
Sonstiges	Other	Alle anderen Einrichtungen/Objekte. <i>All further facilities/items.</i>	

## Place\_technique

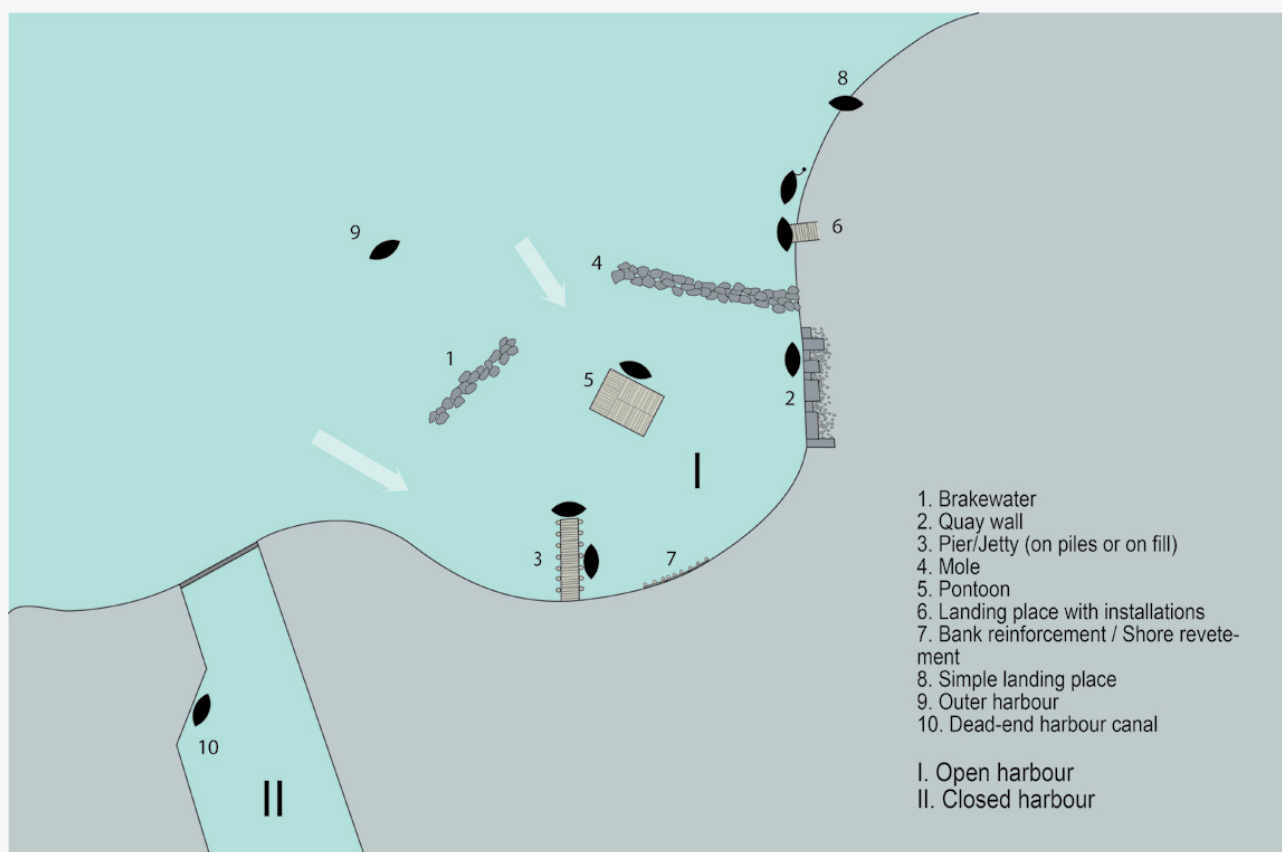
Hafenterminologie bautechnisch spezifiziert; Mehrfachnennungen möglich [[Thesaurusbindung](#)]

Harbour terminology in matters of construction/building technique; multiple entries possible [[thesaurus obligatory](#)]

Term DE (Abb.1)	Term EN (Fig. 1)	Definition SPP 1630	Definition extern
Zentrale bautechnische Termini	Constructive key termini		
Anleger <i>[Synonym: Anlegestelle; Sammelbegriff für Kai, Mole, Brücke, Pier, Steg usw.]</i>	Landing <i>[general term for quay, wharf, jetty, pier]</i>	Einrichtung im Wasser, an der Schiffe schwimmend heranfahren und festmachen können. <i>Installation in the water to moor afloat.</i>	<a href="#">IHO</a>
Kaianlage <i>[Antonym: Schiffslände]</i>	Quay	Künstlich errichtete Anlagen, die ein schwimmendes Anlegen ermöglichen. <i>Artificial construction to moor afloat.</i>	
Kaimauer <i>[Synonym: Kai]</i>	Quay wall <i>[built on fill];</i>  Wharf <i>[built on piles]</i>	Künstlich errichtete Anlage, die parallel zum Ufer verläuft. <i>Artificial construction to moor afloat, parallel to the shore, built on fill (quay wall) or piles (wharf). Use "Quay wall/ wharf" when no detailed information about the construction.</i>	<a href="#">Getty</a>
Landebrücke/Pier <i>[Synonym: Schiffbrücke]</i>  a, Landebrücke/Pier auf Stützen  b, Landebrücke/Pier mit massivem Unterbau	Pier/jetty  a, pier/jetty on piles  b, pier/jetty on fill	Künstliche errichtete Holzkonstruktionen, die rechtwinklig vom Ufer in tieferes Wasser führen, Anlegen längs und/oder an der Stirnseite möglich. Auf hölzernem Unterbau <i>[auf Stützen]</i> oder Dämmen <i>[auf massivem Unterbau/Aufschüttung]</i> , <i>Artificial wooden [on piles] or damlike [on fill] construction to moor afloat, rectangular to the shore into deeper water.</i>	<a href="#">IHO, IHO</a>
Mole	Mole	Dammartige Bauwerke mit Verbindung zum Ufer zum Schutz eines Hafens oder einer Hafeneinfahrt gegen Wellen, Strömung und Versandung. <i>Damlike construction connected to the shore, protection of the harbour or the harbour entrance against waves, currents or sedimentation.</i>	<a href="#">Getty</a>

Wellenbrecher	Breakwater	Zum Auffangen der Seegangsenergie und für die Schaffung einer Zone des Wellenschattens zum Schutz der Schiffe im Hafen, ohne Verbindung mit dem Ufer. <i>Protections against waves, offshore, without connection to the shore.</i>	<a href="#">IHO</a>
Schiffslände <i>[Synonym: Bootslände, Landestelle, Landeplatz, Lände, Hude; Antonym: Kaianlage; beinhaltet Tidehafen, da nur andere Gewässeranbindung]</i>	Landing place <i>[synonym hythe, landing site]</i>	Einfacher Landeplatz ohne künstliche Ausbauten. <i>Simple landing without artificial installations.</i>	<a href="#">Getty</a>
Schiffslände mit festem Zugang / Einbauten	Landing place with installations	Schiffslände mit künstlichen Ausbauten, die u.a. dem verbesserten Zugang dienen. <i>Landing with artificial installations, among others, to improve the access.</i>	
Uferbefestigung <i>[Synonym: Faschine; Uferanbefestigung; Ufersicherung; Uferschutz; Uferverbau, Schlachte; Funktion ggf. unklar]</i>	Bank revetment	In der Regel parallel zum Ufer verlaufende, vertikale oder liegende Konstruktion (z.B. → Faschine) zur Fixierung des Sediments oder gegen die Beschädigung des Gewässerufers. <i>Bank parallel construction to stabilize the bank.</i>	
Weitere bautechnische Termini	Other constructive termini		
Ponton <i>[Synonym Schiffsbrücke, Schwimmsteg]</i>	Pontoon	Schwimmender Hohlkörper, vorwiegend zum Anlegen v. Schiffen od. als Arbeitsplattform.	<a href="#">IHO</a>
Kanal	Canal	Anthropogen hergestellter Wasserlauf zur Schaffung einer Wasserstraße (hier als Nebenelement, ansonsten unter Place_type_general), auch zur Wasserzu- oder -ableitung. <i>Man-made watercourse to create a navigable waterway, further used for supply with/or discharge of water.</i>	<a href="#">Getty</a>
Ankerstein <i>[Synonym: Vertäuungsstein]</i>	Anchorstone	Ein mit mindestens einem Loch versehener Stein, welcher fest in die Kaianlage oder Mole verbaut ist und dem Vertäuen von Schiffen dient. <i>A stone with at least one hole, which is integrated in the quay or mole and used to anchor ships.</i>	
Schlengel	Floating barrier	Einfacher, niedriger Ponton zum Anlegen und Festmachen für Boote in Tidengewässern oder schwimmende, bewegliche Absperrung. <i>Basic, low pontoon to land or fasten boats in tidal waters, or as a swimming, transportable blockage.</i>	
Slip	Boat slip	Schiefe Ebene (z. B. auf Werften), um Boote an Land zu ziehen oder ins Wasser zu lassen. <i>Inclined plane (e.g. at shipyards), to pull boats ashore or launch them.</i>	<a href="#">IHO</a> ; <a href="#">Getty</a>

Schiffsspezifische Termini	Ship-specific termini		
Floß	Raft	Schwimmende Plattform aus z. B. Baumstämmen. <i>Swimming platforms, made from e.g. trunks.</i>	<a href="#">Getty</a>
Plankenfahrzeug	Planked vessel		
Einbaum	Logboat		
Mischform Einbaum/ Plankenfahrzeug	Extended logboat		
Flachbodenfahrzeug/Prahm	Flat bottomed vessel		
Kielfahrzeug	Keelboat		
Sonstiges Fahrzeug	Other water vessel		
[z.B. Textilbespannung o.ä.]	[e.g. with textile shell]		
Fahrzeugteile	Boat/ship parts		
[z.B. Paddel, Ruder, Tauwerk, Segel]	e.g. paddles, rows, ropes, sails]		



**Abb. 1/ Fig. 1.** Hafenterminologie bautechnisch spezifiziert / *Harbour terminology in matters of construction*

## Place\_topography

Topographische Lage des Hafens; Mehrfachnennungen möglich [\[Thesaurusbindung\]](#)

Topographic position of the harbour; Multiple entries possible [\[thesaurus obligatory\]](#)

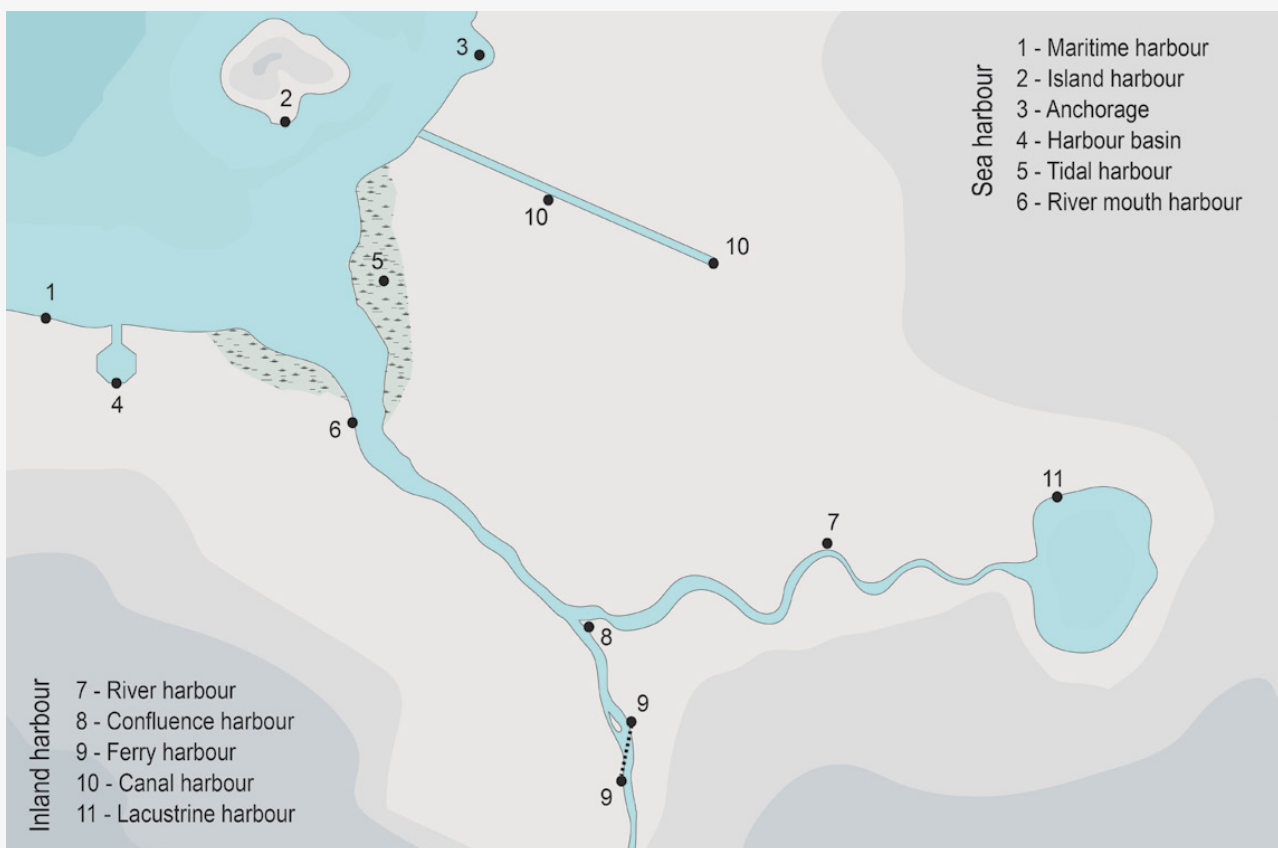
Term DE (Abb.2)	Term EN (Fig. 2)	Definition SPP 1630	Definition extern
Zentrale topographische Termini	Main topographic terms		
Seehafen <i>[Antonym: Binnenhafen; Sammelbegriff]</i>	Sea harbour/port <i>[antonym: inland harbour; general term]</i>	Ein Hafen, der von seegängigen Schiffen angelaufen werden kann, i.d.R. an der Küste gelegen <i>A harbour for seagoing ships, usually on the coast</i>	<a href="#">Getty</a>
Binnenhafen <i>[Antonym: Seehafen; Sammelbegriff]</i>	Inland harbour <i>[antonym: sea harbour/port; general term]</i>	Anlagen für den ruhenden Schiffsverkehr an einem Binnengewässer. <i>Construction for stagnant navigation at inland waters.</i>	<a href="#">Getty</a>
Flusshafen	River harbour	Topographisch an einem Fluss gelegener Hafen. An einem Flusssufer gelegene Stelle, die dem Ein- und Aussteigen von Personen sowie dem Ein- und Ausladen von Waren bzw. ganz allgemein dem ruhenden Schiffsverkehr dient. <i>Harbour, which is topographically situated on the banks of a river. Used for embarking and exiting a boat, loading, and discharging of cargo or generally to serve stagnant navigation.</i>	<a href="#">IHO</a>
Binnenseehafen	Lacustrine harbour	Topographisch an einem Binnensee gelegener Hafen. <i>Harbour, which is topographically situated at lacustrine bodies of water.</i>	<a href="#">Getty</a>
Flussmündungshafen	River mouth harbour	Topographisch an einer Flussmündung gelegener Hafen, von See und Fluss aus erreichbar. <i>Harbour, which is topographically situated at a river mouth; can be reached by both sea and river.</i>	<a href="#">IHO</a> , <a href="#">Getty</a>
Binnenhafen an Zusammenfluss	Confluence harbour	Topographisch am Zusammenfluss von mehreren Binnengewässern gelegener Hafen. <i>Harbour, which is topographically situated at a confluence of two or more inland waterways.</i>	<a href="#">Getty</a>
Inselhafen	Island harbour	Topographisch auf einer Insel gelegener Hafen. <i>Harbour, which is topographically situated on an island.</i>	<a href="#">IHO</a>
Tidehafen	Tidal harbour	Natürlicher Hafen ohne feste Einbauten im Wattenmeergebiet, der Schiffen mit flachem Boden ohne Kiel das Trockenfallen ermöglicht. <i>A natural harbour without permanent constructions in an area affected by the tides, which allows ships with a narrow bottom (without keel) to fall dry.</i>	<a href="#">IHO</a>

Lagunenhafen	Lagoonal harbour	Hafen in einer von der offenen See abgetrennten und dadurch geschützten Zone mit Salz- oder Brackwasser. <i>Harbour in an enclosed and therefore protected area of salt or brackish water, separated from the open sea.</i>	Morhange/ Marriner <i>et al.</i> 2017; <a href="#">IHO</a>
Fjordhafen	Fjord harbour	Hafen in einem Fjord, einem langen und schmalen Meeresarm, der zwischen steilen Ufern oder Klippen verläuft. <i>Harbour in a fjord, a long narrow arm of the sea, running up between high banks or cliffs.</i>	<a href="#">IHO</a>
Kanalhafen	Canal harbour	Hafen in einem Kanal, Nutzung der Kanalfanken und/oder des Kanalendes zum Anlanden der Schiffe. <i>Harbour on a canal, which uses the sides and/or the end of a canal to moor a ship.</i>	
Hafenbecken	Harbour basin	Mehrseitig umschlossener Teil der Wasserfläche eines Hafens <i>Water body at a harbour, which is enclosed on several sides.</i>	de Graauw 2016, 10
Ankerplatz  [Synonym: Reede; Liegestelle]	Anchorage	Platz an dem Schiffe sicher liegen können, entweder an Land gezogen, ankernd in flachen Gewässern oder vertäut. Künstliche Strukturen oder permanente Siedlungen müssen nicht vorhanden sein. Oft nur saisonal oder in Notzeiten genutzt. <i>Area, in which vessels can safely lie, either pulled ashore, anchored in narrow water or moored. Artificial structures or permanent settlements are not required to be present. Often used seasonally or in times of need.</i>	<a href="#">IHO</a> , <a href="#">Getty</a>
Natürliches Hindernis für die Schifffahrt	Natural obstacle for navigation	Natürliche Hindernisse für die Schifffahrt, z.B. Katarakte, Klippen, Untiefen oder Strudel/ gefährliche Strömungen [Wenn unabhängig von Hafenlokalität: Place_type_general „Sonstiges/ other“]. <i>Natural obstacle for navigation, e.g. cataracts, cliffs, shoals, or whirls/dangerous flows [If independent of a harbour location: Place_type_general „Sonstiges/other“].</i>	
Weitere topographische Termini	Other topographic terms		
Offener Hafen  [Antonym: Geschlossener Hafen]	Open harbour  [permanent access; antonym: closed harbour/ dock]	Hafen mit zur anschließenden Wasserstraße ständig ausgespiegelten Wasserständen <i>Harbour with water levels, which mirror those of the attaching watercourse</i>	
Geschlossener Hafen  [Synonym: Dockhafen; Antonym: Offener Hafen, Tidehafen]	Closed harbour/ dock	Hafen, der keinen unmittelbaren Zugang zum Gewässer hat, sondern durch eine Schleuse oder ein Dockhaupt/Docktor von diesem getrennt ist. <i>Harbour, which has no direct access to waters, but is separated by a watergate or a dock sill.</i>	<a href="#">Getty</a>

Molenhafen	Harbour basin separated by a mole	<p>Durch eine Mole vom offenen Gewässer separiertes Hafenbecken. An Flüssen ist der M. ein Parallelhafen, der gegen die Wasserstraße durch einen parallel zum Ufer verlaufenden Trenndamm abgegrenzt ist, um die liegenden Schiffe vor Wasserbewegungen und dem Einfluss des durchgehenden Verkehrs zu schützen. Der Begriff wird vorwiegend bei Binnenhäfen verwendet</p> <p><i>Harbour basin separated from open water by a mole. At rivers, the harbour basin separated by a mole is a parallel harbour, which is marked-off from the waterway by a divide dam parallel to the shore: this is to protect moored ships from water movement and constant traffic. This term is primarily used with inland harbours.</i></p>	
Parallelhafen [Fluss]	Parallel harbour [riverine]	<p>Direkt am Fahrwasser befindlicher, parallel zum Ufer verlaufender Flusshafen. Der P. verfügt generell über eine Steilkante, an der Schiffe schwimmend anlegen können. Dabei kann es sich um eine natürliche Formation oder einen artifiziell errichteten Kai handeln</p> <p><i>River harbour parallel to the bank, which is situated directly at the fairway. The parallel harbour has a steep bank, which is used to land vessels afloat. This can be a natural formation or an artificially constructed quay.</i></p>	
Vorhafen	Outer harbour	<p>Ein geschützter Bereich vor dem eigentlichen Hafen, in dem Schiffe Ankern und auf Reede liegen können.</p> <p><i>Protected part of the harbour where vessels can anchor and lie in the roads.</i></p>	<a href="#">IHO</a>
Stichhafen	Dead-end harbour canal	<p>Künstlich angelegte Abzweigung von einem Flusslauf. Diese Form des Flusshafens soll dazu dienen, dass der ruhende Schiffsverkehr den laufenden Schiffverkehr nicht behindert.</p> <p><i>Artificially constructed branch of a river course. This type of river harbour is supposed to keep the inactive traffic from disturbing the active navigation.</i></p>	
Geestrandburg	Geestrandburg	<p>Auf der küstennahen Geest an der Schnittstelle von überregionalen Land- und Wasserwegen gelegene Befestigung, oft in der Nähe von Siedlungen, in denen Handel und spezialisiertes Handwerk betrieben wurden.</p> <p><i>Structure at the interface of interregional overland routes and waterways at the geest close to the shore, often in close proximity to a settlement in which trading and specialised craft activities take place.</i></p>	
Gewerbewurt	Gewerbewurt	<p>Sich im Frühmittelalter entwickelnder Siedlungstyp in der Küstenmarsch der Nordsee. Anthropogen erhöhte Siedlungen (Wurten) mit einer auf Handel und spezialisiertes Handwerk ausgerichteten Wirtschaftsstruktur</p> <p><i>Settlement type emerging in the Early Middle Ages in the marsh of the North Sea. Artificially elevated settlements (wharf/terp) with an economic structure aimed towards trading and specialized craft activities.</i></p>	



Langwurt	Langwurt	<p>Sich im Frühmittelalter entwickelnder Siedlungstyp in der ostfriesischen Küstenmarsch der Nordsee. Namegebend für diese anthropogen erhöhten Siedlungen (Wurten) ist ihre langgestreckte Siedlungsstruktur, die aus der Lage an einem schiffbaren Priel mit Verbindung zur Nordsee resultiert. Traditionell als Handelssiedlung interpretiert. Aufgrund des unsicheren Zusammenhangs zwischen Siedlungsstruktur und wirtschaftlicher Ausrichtung ist für sicher gewerblich ausgerichtete Wurten der Begriff <b>Gewerbewurt</b> vorzuziehen</p> <p><i>Settlement type emerging in the Early Middle Ages in the East Frisian marsh of the North Sea. This artificially elevated settlement (wharf/terp) is named after its elongated structure, which results from the position at a navigable tideway with a connection to the North Sea. Traditionally seen as a settlement used for trading. Because of the uncertain context between settlement structure and economical orientation, the term <b>Gewerbewurt</b> should be used for wharfs/terps, which certainly had an commercial focus.</i></p>	
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**Abb. 2 / Fig. 2.** Topographische Lage des Hafens / *Topographic position of harbours.*

## Place\_infrastructure

Hafentechnische und ergänzende Einrichtungen; Mehrfachnennungen möglich  
[\[Thesaurusbindung\]](#)

Infrastructure for harbour operation and additional facilities; Multiple entries possible [\[thesaurus obligatory\]](#)

Term DE	Term EN	Definition SPP 1630	Definition extern
Zentrale infrastrukturelle Termini	Central infra-structural terms		
Werft	Shipyard	Platz für die Konstruktion und Reparatur von Booten und Schiffen. <i>Area used for the construction and repair of boats and ships</i>	<a href="#">IHO</a> , <a href="#">Getty</a>
Hafenkran	Dockside crane	Einrichtungen für den Lade- und Entladebetrieb <i>Installations for charging and discharging.</i>	
Bootshaus	Boathouse	Unterstand für Schiffe gegen Wettereinflüsse im Winterhalbjahr sowie als Lagerplatz für Schiffsausrüstung und möglicherweise von Handelsgütern. <i>Shelter for vessels against weather effects during the winter and as a storage location for ship equipment as well as trade goods.</i>	<a href="#">Getty</a>
Slip [Synonym: Helgen, Helling]	Boat slip	Zum Wasser geneigte Ebene, auf der Schiffe gebaut und zu Wasser gelassen werden <i>Level, which is inclined towards the water, and used to build and launch ships</i>	<a href="#">IHO</a> , <a href="#">Getty</a>
Leuchtturm	Lighthouse	Architektonisch geformte Seezeichen, die die Einfahrten von Häfen oder gefährliche Küstenabschnitte markieren. <i>Architectural navigation marks that flag the entrances of harbours or dangerous parts of the coast</i>	<a href="#">Getty</a>
Lager- /Speicherbauten	Storehouse	Bauten zum Lagern unterschiedlicher Güter, oft in Hafennähe. <i>Buildings for storing various goods, often close to a harbour</i>	<a href="#">Getty</a>
Schiffervereinigung [nautae u.a.]	Corporation of boatmen/guild [e.g. nautae]	Vereinigung/Zusammenschluss von Schiffen, meist regional organisiert. <i>Association of boatmen, usually organised in a regional manner.</i>	
Flussübergang	River crossing	Übergang über einen Fluss, meist Furt/ Fähre oder Brücke, Sammelbegriff. <i>Passage over a river, usually a ford/ferry or bridge; this is a collective term.</i>	<a href="#">Getty</a>
Brücke	Bridge	Übergang über einen Fluss durch eine Brücke [Steinbrücke, Holzbrücke, Schiffsbrücke/Schwimmbücke]. <i>River crossing, which is a bridge [stone bridge, wooden bridge, pontoon bridge].</i>	<a href="#">Getty</a>
Furt	Ford	Flacher Bereich eines Flusses, an dem dieser ohne Wasserfahrzeug überquert werden kann. <i>Narrow section of a river where it can be crossed without a vessel.</i>	<a href="#">Getty</a>

Verbindung mit wichtiger Straße/Landweg	Connected to important terrestrial route/road		
Weitere infrastrukturelle Termini	Other infra-structural terms		
Dalbe <i>[Duckdalbe, Vertäudalbe; Reibepfahl]</i>	Dolphin	Pfahl oder Pfahlbündel im Wasser, zum Festmachen von Schiffen. <i>Pole or group of poles in the water where a ship can be attached.</i>	
Vertäuungspfähle am Ufer	Mooring pole	Pfähle am Ufer, zum Festmachen von Schiffen. <i>Poles at the shore where a ship can be attached.</i>	
Poller/Kreuzholz <i>[Festmacheinrichtungen]</i>	Bollard/belayer	Ein kurzer Pfahl oder eine pfahlstumpffartige Vorrichtung zum Festmachen von Schiffen mit Trossen oder Tauen, z.B. an Kais oder Landebrücken. Steht an Land, im Gegensatz zur Dalbe, die im Wasser steht. <i>A short pole or something similar used to tie ships up with ropes, e.g., at quays or piers. On land, in contrary to a dolphin, which is located in the water.</i>	<a href="#">Getty</a> , <a href="#">IHO</a>
Boje/Bake/Tonne	Buoy	Am Grund verankerter Schwimmkörper, z. B. zum Festmachen von Booten oder Schiffen oder als Markierung für den Anker (Ankerboje). <i>Floating body anchored in the ground, e.g. used to tie boats or ships to or as a marker for the anchor (anchor buoy).</i>	<a href="#">IHO</a>
Reibholz	Fender	An Wasserfahrzeugen und Kaianlagen angebrachte (fest oder lose) Scheuerleiste oder Fender zum Schutz von Bordwand und Hafenanlage. <i>(Fixed or loose) Rubbing strake attached to vessels or quays to protect a ship's side and the harbour installation.</i>	<a href="#">RGZM</a>
Varde <i>[Synonym: Steinmännchen]</i>	Cairn	Norwegisch: Steinmännchen, Seezeichen als Navigationshilfe zum Auffinden und Einfahren in den Hafen. <i>Norwegian: stone manikin, navigation mark to help find and enter a harbour.</i>	<a href="#">IHO</a>
Vorr <i>[Shetland: virr]</i>	Vorr	Norwegisch: Eine oder zwei Steinreihen, die eine Slippe begrenzt, meist außerhalb eines Bootshauses. In der Rampe dazwischen wird das Boot hochgezogen. <i>Norwegian: one or two stone alignments, which border a slip, usually outside of a boathouse. On the ramp between, a boat can be lifted.</i>	
Baumhaus	Baumhaus	An Hafeneinfahrt. Durch Baumhäuser konnte bei Nacht oder bei einer drohenden Gefahr mit Hilfe eines Baumstammes beziehungsweise einer Hafenkette die Einfahrt in die Häfen gesperrt werden. Auch eine zollrechtliche Bedeutung wird erwogen. <i>At the entry of a harbour. A Baumhaus could be used at night or in the face of an imminent danger to block the entrance to the harbour, with a tree trunk or a chain. A connection to tolls has been discussed too.</i>	

Hafenpalisade	Harbour palisade	Verteidigungsanlage zum Schutze des Hafens gegen Angriffe; Begrenzung eines gesonderten Rechtsraumes mit Schutzherren und Handelszöllen. <i>Defense to protect a harbour against attacks; Border of a separated judicial area with a patron and tolls.</i>	<a href="#">Getty</a>
Sperrwerk <i>[Synonym: Seesperrwerk, Sperrwerk, Pfahlsperre]</i>	Barrage	Quer zum Seeweg Verteidigungsanlage zur Kontrolle des Seewegs inkl. Erhebung von Handelszöllen. Uferparallel zur Befestigung von Flottenstützpunkten an Seewegen. <i>Defence facility crossing a sea route to controll it, including the collection of tolls. Bank-parallel to protect naval bases on a sea route.</i>	cf. Grøn/Nørgård Jørgensen 1997
Wippe	Derrick/davit	Einrichtung für den Lade- und Entladebetrieb, die den Warenumschatz zwischen Hafenanlagen und Frachtschiffen ermöglicht. Wippen entwickelten sich aus der Verwendung der Rah der Fahrzeuge als Ladebaum, die sich mit Hilfe der Brassen kippen und schwenken ließ. <i>Installations for charging and discharging, which allows cargo handling between docks and cargo ships. Derricks/davits emerge from the usage of the vessel yard as derrick boom, which could be moved with help of the brace.</i>	<a href="#">Getty</a> , <a href="#">Getty</a>
Treidelweg	Tow path		<a href="#">Getty</a>
Schleuse/Wehr	Sluice	Anlage zum Heben oder Senken von Wasserfahrzeugen durch Füllen oder Leeren einer Schleusenkammer / Stauanlage zur Kontrolle des Zu- oder Abflusses eines Fließgewässers. <i>Installation to lift and lower vessels by filling or emptying a lock chamber / dam to control the in- and outflow of a watercourse.</i>	<a href="#">IHO</a>
Fischereieinrichtung	Fishery	Ortsfeste oder teilmobile Einrichtungen der Fischerei <i>[Fischwehre, Reusen, Becken u.a.]</i> <i>Stationary or partially mobile installations used for fishing activities [weirs, fish traps, basins, and others].</i>	<a href="#">Getty</a>
Wassermühle	Water mill	Mit Wasserkraft betriebene Mühle am oder auf/im Fluss <i>[Wassermühle, Bootsmühle u.a.]</i> <i>Mill powered by hydraulic energy at or on/in a river [water mill, ship mill and others].</i>	<a href="#">Getty</a>
Damm <i>[u.a. Flusseiteendamm, Leitdamm]</i>	Dam	Aufschüttung unterschiedlicher Funktion zur Kontrolle des Wasserflusses <i>Embankment of various functions to control the water flow.</i>	<a href="#">Getty</a>

## Place\_function

Verwendungszweck des Hafens; Mehrfachnennungen möglich [\[Thesaurusbindung\]](#)

Function and purpose of the harbour; multiple entries possible [\[thesaurus obligatory\]](#)

Term DE	Term EN	Definition SPP 1630	Definition extern
Zentrale funktionsspezifische Termini	Central function-specific terms		
Handelshafen <i>[beinhaltet Exporthafen u.a.]</i>	Commercial/ trade harbour	Verwendungszweck: Umschlag von Handels Gütern <i>Purpose: movement of traded goods.</i>	
Kriegshafen	Naval base	Verwendungszweck: Stationierung von Flotten. <i>Purpose: deployment of fleets.</i>	<a href="#">Getty</a>
Start-/Endpunkt eines Transports per Schiff (aus hist. Quellen)	Origin/destination of transportation by ship  <i>[from written sources]</i>	Alle in Schriftquellen dokumentierten Start- und Endpunkte von Transporten per Schiff <i>[Fracht/Passagiere in Place_goods_finds spezifizieren]</i> <i>All starting points and destinations of transport by ship which are documented in written sources.</i>	
Fährhafen	Ferry harbour	Verwendungszweck: Übersetzen von Passanten, Wagen und Großvieh. <i>Purpose: to ferry passengers, vehicles and livestock</i>	
Landeplatz	Landing place  <i>[synonym hythe, landing site]</i>	Einfacher Liegeplatz, der sowohl im agrarischen Kontext als auch für spezialisierte ökonomische Ausrichtungen genutzt werden kann. Er unterstreicht die zur Küste hin orientierte ökonomische Struktur des Wirtschaftsraumes. Verwendung primär in maritimem Kontext. <i>Simple berth, which can be used in an agricultural context, as well as for a specific economic purpose. It highlights the economic structure of a region oriented towards the coast. Primarily used in a maritime context.</i>	<a href="#">Getty</a>

Hafenstadt	Port	<p>Stadt mit 1.) Lage am Übergang zwischen Land und Meer bzw. Land und Fluss, einhergehen mit Hafenbecken und spezifische Bauten. 2.) Ort des Überganges zwischen den Räumen „Land“ und „Meer/Fluss“ im Sinne von „gateway cities“. 3.) spezifischer Ökonomie, die durch die Konzentration typischer Berufe konstituiert wird (Umschlag von Waren, Vereinigungen von Schiffseignern, Händlern, Trägern, Fischern, usw.). 4.) eigene, spezifische Kultur, die sich von gleichzeitigen Städten im Binnenland abhebt (Orte des Austausches, Informationszentren u.a.).</p> <p><i>City 1.) Located at a crossing between land and sea or land and river, accompanied by a harbour basin and specific buildings 2.) Located at places of transitioning between the spaces of „land“ and „sea/river“ in the sense of „gateway cities“ 3.) Characterized by a specific economy constituted by a concentration of typical professions (movement of traded goods, association of ship-owners, merchants, carriers, fishermen, etc.) 4.) with its own unique culture, which separates it from coexisting inland cities (trading centers, information hubs, et al.).</i></p>	<a href="#">Getty</a>
Fischereihafen	Fishing harbour	<p>Hafen oder Bereich eines Hafens, der besonders ausgerichtet ist auf Fischerei, Fischverwertung und -versand.</p> <p><i>Harbour or part of a harbour, which is particularly oriented towards fishing, fish processing, and fish distribution.</i></p>	
Umladehafen [Synonym: Transithafen, Umschlagplatz]	Transshipment harbour	<p>Verwendungszweck: Hafen, der nicht Zielpunkt eines (Schiffs-)Transports ist, sondern bloß Zwischenstation. Ein Wechsel des Transportmittels ist im Transithafen möglich, aber nicht zwingend. Je nach Bestimmungsort/ Reiseroute kann potentiell jeder Hafen als Transithafen genutzt werden.</p> <p><i>Purpose: Harbour, which is not the terminal point of a transport by ship, but merely a stop on the route. A change of vehicles is possible, but not mandatory. Depending on destination/ itinerary, every harbour can potentially be used as a transshipment harbour.</i></p>	<a href="#">IHO</a>
Sicherheitshafen	Safety harbour	<p>Verwendungszweck. Hafen zum Schutz vor Stürmen und Wellengang.</p> <p><i>Purpose: Harbour for protection from storms and swell.</i></p>	

Ufermarkt [Synonym: Strandmarkt]	Beach market	Hafen an einem Fluss bzw. am Strand, in dessen direktem Umfeld ein Tausch- oder Handelsgeschehen stattfindet und sich auch spezialisiertes Handwerk einfindet. Teilweise nur saisonale Nutzung. <i>Harbour at a river or beach, close to exchange or trading activities and a venue for specialised craft. Sometimes only seasonal use.</i>	Ludowici/Jöns 2010
Werft	Shipyard	Platz für die Konstruktion und Reparatur von Booten und Schiffen. <i>Area, where ships and boats are constructed and repaired.</i>	IHO, <a href="#">Getty</a>
Schiffahrtsabgabe/Zoll	Water toll/naval duties	Gebühren, die Schiffe für die Benutzung der Leuchtfeuer, Seezeichen, Fahrwasser, Kanäle, kanalisierten Flüsse, Schleusen und Hafenliegeplätze entrichten. Impliziert meist einen Hafen am selben Ort oder im Umfeld. <i>Fee ships must pay for usage of beacons, navigation marks, fairways, canals, canalised rivers, locks and port berths. Usually implies a harbour in the location or nearby.</i>	<a href="#">Getty</a>
Wasserstraße	Waterway	Regelmäßig befahrene Verkehrsroute der See- und Binnenschifffahrt. <i>Regularly frequented route used for maritime and inland navigation.</i>	<a href="#">Getty</a>
Weitere funktionsspezifische Termini	Other function-specific termini		
Hafenviertel	Dockland/ waterfront	Areal innerhalb einer Hafenstadt, das sich aus dem Hafen mit seinen wasser- und landseitigen Einrichtungen sowie dem unmittelbar damit in Bezug stehenden Siedlungsteil zusammensetzt. <i>Area of a port, which consists of the harbour with its water- and landside elements, as well as the part of the settlement, which is immediately related to it.</i>	<a href="#">Getty</a>
Stapelplatz	Staple port	Ursprünglich für quasi natürliche Rast- und Handelsplätze des Fernhandels. Diese gerieten später unter herrschaftlicher Kontrolle, ab dem Hochmittelalter mussten Händler hier halten und ihre Waren zum Verkauf anbieten. <i>Originally used for quasi-natural resting places and trading venues of long-distance trade. These areas later fell under control of the ruling, from the High Middle Ages: merchants had to stop there and offer their commodities.</i>	



Schiffsländenburgus	Schiffsländenburgus	Spätromische militärische Festung an Binnengewässern mit Flügelmauern, die senkrecht zur Uferlinie verlaufen und eine Schutzzone zum Anlanden / Aufslippen bilden <i>Late Roman fortress on inland waters with wing walls, which run vertically to the bank and create a protected area for landing ships.</i>	
villa maritima	villa maritima	Villa in Küsten- oder Seeuferlage, die vorrangig der Freizeit und Muße galt und die über Anleger verfügen konnte. <i>Villa on the coast or lake shore, which primarily served spare time and leisure and could offer landing opportunities.</i>	
Schiffsspezifische Termini	Ship-specific termini		
Binnenfahrzeug	Inland vessel		<a href="#">Getty</a>
seegängiges Fahrzeug	Seagoing vessel		<a href="#">IHO</a>
Fähre	Ferry	Fähren dienen dem Übersetzen von Personen, Fahrzeugen, Tieren und Waren an die gegenüberliegenden Uferzonen eines Binnengewässers. <i>Ferries were used to transport people, vehicles, animals, and commodities to the opposite bank of inland waters.</i>	<a href="#">Getty</a>
Transportfahrzeug	Cargo vessel		<a href="#">Getty</a>
militärisches Fahrzeug	Naval ship		<a href="#">Getty</a>
Fischer/Arbeitsboot	Fishing/working vessel		<a href="#">Getty</a>
Rudereinrichtungen	Rowing facilities		
Segeleinrichtungen	Sailing facilities		
Treideleinrichtungen	Towing/hauling facilities		
Paddeleinrichtungen	Paddling facilities		
Stakeinrichtungen	Punting/staking facilities		

## Place\_goods\_finds

Spezifische nachgewiesene Transportgüter und andere spezifische Funde und Material-gruppen; Mehrfachnennungen möglich [Thesaurusbindung]

Proof of specific transported goods and other specific finds and groups of materials; Multiple entries possible [thesaurus obligatory]

Für Ergänzungen bitte orientieren an / For extensions please use:

[http://thesaurus.historicengland.org.uk/thesaurus.asp?thes\\_no=77&thes\\_name=FISH%20Maritime%20Cargo%20Types%20Thesaurus](http://thesaurus.historicengland.org.uk/thesaurus.asp?thes_no=77&thes_name=FISH%20Maritime%20Cargo%20Types%20Thesaurus)

Term DE	Term EN	Definition SPP 1630	Definition extern
Fracht	Cargo	Transportierte Güter aller Art. <i>All sorts of goods transported.</i>	<a href="#">HE</a>
Passagiere/Menschen	Passengers/people	Transportierte Menschen/ Passagiere aller Art. <i>Transported people/ passengers of all sorts.</i>	<a href="#">HE</a>
Nahrung	Food		<a href="#">HE</a>
Fisch	Fish		<a href="#">HE</a>
Wein	Wine		<a href="#">HE</a>
Korn/Getreide	Grain/cereal		<a href="#">HE</a> , <a href="#">HE</a>
Öl	Oil		<a href="#">HE</a>
Salz	Salt		<a href="#">HE</a>
Personen	People		<a href="#">HE</a>
Keramik/Tonwaren	Pottery		<a href="#">HE</a>
Amphoren	Amphorae		<a href="#">HE</a>
Fässer	Barrels		<a href="#">HE</a>
Stein	Stone		<a href="#">HE</a>
Holz	Timber		<a href="#">HE</a>
Stroh/Heu	Straw/hay		<a href="#">HE</a>
Eisen/Erz	Iron/ore		<a href="#">HE</a> , <a href="#">HE</a>
Textilien	Textiles		<a href="#">HE</a>
Glas	Glassware		<a href="#">HE</a>
Militärausrüstung	Military equipment		<a href="#">HE</a>
Ballast	Ballast		<a href="#">HE</a>
Gewichte/Waagen	Weights		
Fischereizubehör [Netzsenker u.ä.]	Fishing gear		<a href="#">HE</a>

## Actors\_activity

Hafen - und schifffahrtsspezifische Handlungen und Ereignisse sowie spezifische Nutzergruppen; Mehrfachnennungen möglich [Thesaurusbindung]

Harbour - and navigation-specific actions and events, as well as specific user groups; Multiple entries possible [thesaurus obligatory]

Term DE	Term EN	Definition SPP 1630	Definition extern
Bergfahrt [Antonym: Talfahrt]	Upstream navigation		
Talfahrt [Antonym: Bergfahrt]	Downstream navigation		
Treideln	Hauling/towing		
Segeln	Sailing		
Paddeln	Paddling		
Rudern	Rowing		
Staken	Stake/punt		
Schiffbruch	Shipwreck		<a href="#">Getty</a>
Piraterie/Kaperung	Piracy		

## Place\_hierarchy

Individuelle Experteneinschätzung zur hierarchischen Einordnung und Bedeutung des Hafens bezüglich der Reichweite seiner Bedeutung, der Lage im Hafennetzwerk, der Nutzungsfrequenz und -dauer, des generellen baulichen Aufwandes sowie der räumlichen Verbindung zu Produktions- und Konsumorten sowie Landwegen; Mehrfachnennungen erwünscht [Thesaurusbindung]

Individual expert evaluation concerning the hierarchical order and importance of the harbour revolves around the spatial extent of his connections, his position in the harbour network, the frequency and duration of his use, the general constructive effort, the spatial connection to sites of production and consumption, as well as terrestrial routes; Please use multiple entries [thesaurus obligatory]

Term DE	Term EN	Definition SPP 1630	Definition extern
Globale Bedeutung	Global importance	Hafen oberster Ordnung, Verbindungen in andere Kontinente oder zumindest völlig andere Wirtschafts- und Verkehrsräume [z.B. Ostia/Portus, London, Venedig] <i>Most important harbours, which are connected to different continents or at least different economic and transportation areas [e.g. Ostia/Portus, London, Venice].</i>	

Überregionale Bedeutung	Supraregional importance	Bedeutung über eine einzelne Region/einen Wirtschaftsraum/ein Gewässersystem hinweg [z.B. Haithabu, Lyon, Regensburg] <i>Significance is greater than a specific region / an economic area / a water system [e.g. Haithabu, Lyon, Regensburg].</i>	
Regionale Bedeutung	Regional importance	Bedeutung innerhalb einer größeren Region/eines Wirtschaftsraumes/eines Gewässersystems [z.B. Aschaffenburg, Ingelheim] <i>Important within a larger region / a water system [e.g. Aschaffenburg, Ingelheim].</i>	
Lokale Bedeutung	Local importance	Auf einen Kleinraum oder ein Einzelgewässer beschränkte Bedeutung [z.B. kleiner Landeplatz für Fischer] <i>Valuable only for a small area or a single body of water [e.g. a small fisherman's quay].</i>	
Saisonale/Periodische Nutzung	Seasonal/periodical use		
Permanente Nutzung	Permanent use		
Periphere Lage	Peripheral location		
Zentraler Knotenpunkt	Central node		
Kurzzeitige Nutzung	Short-term use		
Langfristige Nutzung	Long-term use		
Kein Beleg für tatsächliche Nutzung	No proof for actual use		
Aufwändige Hafeninfrastruktur/ Baulichkeiten	Substantial harbour infrastructure/buildings		
Keine aufwändige Hafeninfrastruktur/ Baulichkeiten	No substantial harbour infrastructure/buildings		
Verbindung mit wichtiger Straße/ Landweg	Connected to important terrestrial route/road		
Direkte Verbindung zu wichtigem Produktionsort	Connected to an important productive site		
Direkte Verbindung zu wichtigem Konsumort	Connected to an important consumer site		
Direkte Verbindung zu wichtigem Verwaltungs-/Herrschaftszentrum	Connected to an important center of administration or power		
Direkte Verbindung zu wichtigem religiösem Zentrum	Connected to an important religious center		
Direkte Verbindung zu wichtigem Truppenstandort	Connected to an important military base		

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### A landscape-archaeological contribution to the Zwin-debate

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